

Work-Order ID 87034

July-10-12 8:23:45 AM

87034

Page 1

Item ID: D206-642-351

Accept

N900040100

Setup Start *NS1*

Revision ID:

Stop *NS2*

Item Name: Replacement Skidtube

Start Date: 10/07/2012 Start Qty: 1.00 *1*

Cust Item ID:

Required Date: 23/07/2012 Req'd Qty: 1.00 *1*

Customer:

Reference:

Approvals: Process Plan: MLJ Date: 12/07/10 Tooling: _____ Date: _____

Run Start *NR1*

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop *NR2*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

Draw Nbr	Revision Nbr
D4361	A
IIN-D206-642	O

100

0.00

1000

DOCUMENT CONTROL

DC

Memo

0.00

Document Control

Photocopy bluefile and create labels per PPP D206-642-351 CHG001

N/A *[Signature]*

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
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NOTE: Date & initial all entries

Work Order ID 87034***87034***

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N900040100Setup Start ***NS1***

Revision ID:

Item Name: Replacement Skidtube

Stop ***NS2***

Start Date: 10/07/2012 Start Qty: 1.00

1

Cust Item ID:

Required Date: 23/07/2012 Req'd Qty: 1.00

1

Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start ***NR1***

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
110		0.00							
110	Skidtubes								
Skidtubes	Memo	0.00							
Skidtubes	1-Deburr Fwd edge of tube								
	2-Remove ridge on inside of Fwd edge of tube as per Dwg D4361								
	3-Weld Fwd Cap as per Dwg D4361 Use aluminum rod. Grind D2647 to fit as required.								
	A/RAluminum Rod <u>M122130/M20164</u>								
	4-Grind weld flush to cap on top surface only.								
	5-Cut aft end to length as per dwg D4361								
	6-Drill pilot holes using drill Jig DT8168A and DT8168B. Most Fwd wearplate hole to be laid out manually.								
	8-Open Aft Cap Hole using # Drill Bit								
	9-Open holes for Tow Ring to Ø0.625" as per Dwg D4361, D4361-041 Drilling Detail								
	10-Remove inner indexing ridge on aft end of skidtubes as per Dwg D4361								
	11-Deburr and Blow out all chips from inside the tube								

SAD 12-07-10

3 BE 12/07/10

SAD 12-07-10

SAD 12-07-11

SAD 12-07-10

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

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1

Customer:

Reference:

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QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Run Start ***NR1***

Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
115	QC5- Inspect part completeness to step on W/O	0.00							
115									
QC	Memo	0.00							
Quality Control									
120	Chemical Conversion Coat per QSI005 4.1	0.00							
120									
HandFinish	Memo	0.00							
Hand Finishing									
125	QC3- Inspect Part Finish	0.00							
125									
QC	Memo	0.00							
Quality Control									

5/7/07/14

1 12-7-12

① 3AD 12 07-12

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector
12-07-12	125	Change Q ₆₃ to Q ₇					

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

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Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Run Start ***NR1***

Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
130		0.00							
130	Skidtubes								
Skidtubes	Memo	0.00							
Skidtubes	1-Open holes to finished size as per Dwg D4361, D4361-041 Drilling Detail								
	2-Countersink crossbolt spacer holes as per Dwg D4361								
	3-Deburr. Blow out chips. Grind alodine off around crossbolt spacer.								
	4-Bond D2654-5 web in place as per QSI 015, Ensure holes line up. Allow 12 Hrs. cure time								
	Start Date: <u>12-7-16</u> Time: <u>9:45</u>								
	Finish Date: <u>12-7-17</u> Time: <u>1:00</u>								
	A/R Sikaflex-291: <u>m121409</u>								
	Sikaflex expiry date: <u>12-4-12</u>								
140	QC5- Inspect part completeness to step on W/O	0.00							
140									
QC	Memo	0.00							
Quality Control									

CF 12-7-16

01 0 DAS 12-07-17

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

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Stop

NS2

Start Date: 10/07/2012 Start Qty: 1.00

1

Cust Item ID:

Required Date: 23/07/2012 Req'd Qty: 1.00

1

Customer:

Reference:

Approvals:

Process Plan:

Date:

Tooling:

Date:

Run Start

NR1

QC:

Date:

SPC (Y/N):

Date:

Stop

NR2

Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Tool ID

Tool #

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

150

150

Skidtubes

Skidtubes

Skidtubes

Memo

0.00

1-Prep per QSI 005 and Insert cross bolt spacers D2649. Weld as per QSI 004 and Dwg D4361. Remember to back drill each hole to 0.25" before welding the other side. Use aluminum rod A/RAluminum Rod *MI20164* *BE 12/6/17*

2-Grind welds flush as per Dwg D4361. *SAD 12-07-18*

3-Counterbore 5/16" x 0.750" deep as per Dwg D4361. Deburr *SAD*

4- Install nut plate as per dwg *12-7-18*

170

170

QC

Quality Control

QC10- Inspect visual per QSI004- ground welds

0.00

Memo

0.00

DAS 16 2-5 7/6/18

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

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Stop

NS2

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1

Cust Item ID:

Required Date: 23/07/2012 Req'd Qty: 1.00

1

Customer:

Reference:

Approvals:

Process Plan:

Date:

Tooling:

Date:

Run Start

NR1

QC:

Date:

SPC (Y/N):

Date:

Stop

NR2

Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Tool ID

Tool #

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

180

QC5- Inspect part completeness to step on W/O

0.00

180

QC

Memo

0.00

Quality Control

190

Pressure Wash per QSI005 4.3

0.00

190

HandFinish

Memo

0.00

Hand Finishing

Brush alodine tube on crossbolt spacer area, do not acid etch, do not dip tube in tank.

200

White Gloss(Ref:4.3.5.1) per QSI005 4.3-Alum

0.00

200

Powdercoat

Memo

0.00

Powder Coating

START TIME:

OVEN TEMPERATURE:

FINISH TIME:

8-15
3200F
8-45

1 7/6 12-7-19

M-L

1X 12/07/19

M121841

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Start Date: 10/07/2012 Start Qty: 1.00

1

Cust Item ID:

Required Date: 23/07/2012 Req'd Qty: 1.00

1

Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Run Start ***NR1***

Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
210	QC3- Inspect Part Finish	0.00							
210									
QC	Memo	0.00							
Quality Control									
220	HandFinishing	0.00							
220									
HandFinish	Memo	0.00							
Hand Finishing	1-Install wearplates as per dwg D4361.								
	2-Install O-Rings D2651-3 on plugs D2651-1 with Petroleum Jelly and install plugs as per Dwg D4361. Clean excess adhesive								
	3-Install MS27039-4-06 Screw								
	4-Inspect for foreign object per QSI 024								
	5-Install D2646 Aft Cap and seal with SikaflexClean excess adhesive A/RSikaflex-291 <u>M171130</u> Sikaflex expiry date: <u>14103</u>								
	6-Wing Walk as per Dwg D4361-041 and QSI 005 4.4 Batch: <u>11121508</u>								

1 x RH ✓ HL 12/07/12
1 RH ✓ HL 12/07

Dart Aerospace Ltd

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DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

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Start Date: 10/07/2012 Start Qty: 1.00 ***1***

Cust Item ID:

Required Date: 23/07/2012 Req'd Qty: 1.00 ***1***

Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
230 *230* QC Quality Control	QC3- Inspect Part Finish Memo	0.00 0.00							
240 *240* QC Quality Control	QC5- Inspect part completeness to step on W/O Memo	0.00 0.00							
250 *250* Packaging Packaging	Packaging Memo Identify and pack for shipping as per PPP D206-642-351 Location: _____ PPP Rev: <u>PPR 86995</u>	0.00 0.00							

10/14/20

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

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DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
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Picklist Print

July-10-12 8:23:49 AM

Page 1

Work Order ID: 87034

87034

Parent Item: D206-642-351

D206-642-351

Parent Item Name: Replacement Skidtube

Start Date: 10/07/2012

Required Date: 23/07/2012

Start Qty: 1.00

Required Qty: 1.00

Comments: IPP REV:A NEW ISSUE 12-07-09 JLM VERIFIED BY:

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
D2600-1-160		Manufactured	No				Each	55.0000		1			

~~*D2600-1-160*~~

Extrusion Round 3" 206

**

SAD 12-07-10

D2620

h

Location

Loc Qty

Loc Code

LG

55

43969

2

59875

1

68284

4

76913

48

86331

0

886331

D2654-5

Manufactured No

Each

7.0000

1

D2654-5

Web

**

1 CF 12-7-16

B87049

Location

Loc Qty

Loc Code

LG

7

82128

1

85209

6

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

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Work Order ID: 87034

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Parent Item: D206-642-351

D206-642-351

Parent Item Name: Replacement Skidtube

Start Date: 10/07/2012

Required Date: 23/07/2012

Start Qty: 1.00

Required Qty: 1.00

D2646

Manufactured No

Each

81.0000

D2646

Aft Cap

**

1 *W 12/07/12*

Location

Loc Qty

Loc Code

FP002

81

62678

5

68280

5

70945

1

71070

2

73294

1

73825

2

79562

4

81974

28

85443

33

X

D2647

Manufactured No

Each

65.0000

D2647

Cap

**

1

BE 12/07/10

Location

Loc Qty

Loc Code

LG002

65

75482

3

79563

62

/

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

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Parent Item Name: Replacement Skidtube

87034

D206-642-351

Start Date: 10/07/2012

Required Date: 23/07/2012

Start Qty: 1.00

Required Qty: 1.00

D2649

Manufactured No

Each

351.0000

23

D2649

Cross Bolt Spacer

**

30/07/12

Location

Loc Qty

Loc Code

LG

208

77574

2

79502

8

79503

5

79564

4

79565

7

85586

182

LG001

143

65317

1

68224

2

68507

11

71355

2

72704

2

72841

11

73390

8

73857

21

73858

53

73859

4

73860

4

78020

6

78583

2

79566

16

23

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

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Parent Item Name: Replacement Skidtube

87034

D206-642-351

Start Date: 10/07/2012

Required Date: 23/07/2012

Start Qty: 1.00

Required Qty: 1.00

D2651-1

Manufactured No

Each

474.0000

4

D2651-1

Plug

**

4 12/07/19

Location

Loc Qty

Loc Code

FP

200

B85456

X4

FP001

425

57869

1

66445

10

69018

2

70827

2

70839

8

71037

8

77559

30

78584

18

79234

46

FP002

203

85456

203

FP-A

-354

77559

1

78124

5

81954

36

82573

104

D2651-3

Manufactured No

Each

1,016.000

4

D2651-3

O-Ring

**

4 12/07/19

Location

Loc Qty

Loc Code

FP001

16

61962

12

73828

4

FP-A

1000

78126

1000

X4

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Shop Packet Print

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D206-642-351

Start Date: 10/07/2012

Required Date: 23/07/2012

Start Qty: 1.00

Required Qty: 1.00

D2680-041

Manufactured No

Each

74.0000

1

D2680-041

Nut Plate

**

DP 12-7-18

Location

Loc Qty

Loc Code

ST013

74

78016

74

Each

332.0000

18

D3873-1

Manufactured No

D3873-1

Bushing

**

18
11/07/19

Location

Loc Qty

Loc Code

ST057

6

79561

6

ST067

326

64760

1

68247

4

73829

19

73830

2

76791

280

79560

20

X18

D4364-041

Manufactured No

Each

0.0000

1

D4364-041 ✓

Fwd Wearplate Assembly

**

1387806 (x1) 11/07/20

D4364-043

Manufactured No

Each

0.0000

1

D4364-043 ✗

Aft Wearplate Assembly

**

1387540 (x1) 11/07/20

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Shop Packet Print

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87034

D206-642-351

Start Date: 10/07/2012

Required Date: 23/07/2012

Start Qty: 1.00

Required Qty: 1.00

AN3-36A Purchased No

Each 222.0000 9

AN3-36A

Bolt

**

HL 11/03/19

Location

Loc Qty

Loc Code

ST353

222

15072

70

15924

152

YG

NAS1149C0332R Purchased No

Each 9,080.000

9

NAS1149C0332R

Washer

**

HL 11/07/19

Location

Loc Qty

Loc Code

297

9058

122063

9058

YG

ST297

22

121509

22

MS21042-3 Purchased No

Each 0.0000

9

MS21042-3

USE MS21042L3

11/119017 **

(YG) HL 11/07/19

NAS1149D0332J Purchased No

Each 1,517.000

2

NAS1149D0332J

Washer

**

HL 11/07/19

Location

Loc Qty

Loc Code

ST297

930

121708

930

ST298

587

105793

12

110985

4

117087

89

119042

16

119717

103

120644

7

121011

356

Y2

July-10-12 8:23:49 AM

Shop Packet Print

Page 6

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

July-10-12 8:23:49 AM

Page 7

Work Order ID: 87034

Parent Item: D206-642-351

Parent Item Name: Replacement Skidtube

87034

D206-642-351

Start Date: 10/07/2012

Required Date: 23/07/2012

Start Qty: 1.00

Required Qty: 1.00

CCR264SS3-3

Purchased

No

Each

320.0000

2

CCR264SS3-3

Cherry Rivet

**

DP 12-7-18

Location

Loc Qty

Loc Code

ST331

320

113973

2

117849

77

119017

241

Each

0.0000

2

CR3212-4-3

Purchased

No

CR3212-4-3

Cherry Rivet

**

DP 12-7-18

119017

MS27039-1-08

Purchased

No

Each

1,168.000

**

11/07/19

MS27039-1-08

Screw

Location

Loc Qty

Loc Code

ST291

1168

117423

81

119075

1

120308

166

121011

43

121243

500

121708

377

Each

114.0000

1

MS27039-4-06

Purchased

No

MS27039-4-06

Screw

**

12/07/19

Location

Loc Qty

Loc Code

ST292

114

119075

114

X1

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Shop Packet Print

Page 7

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

July-10-12 8:23:49 AM

Page 8

Work Order ID: 87034

Parent Item: D206-642-351

Parent Item Name: Replacement Skidtube

87034

D206-642-351

Start Date: 10/07/2012

Required Date: 23/07/2012

Start Qty: 1.00

Required Qty: 1.00

NAS1149D0463J

Purchased

No

Each

1,946.000

1

NAS1149D0463.J

Washer

**

HL 10/07/12

Location

Loc Qty

Loc Code

ST298

89

1122-41

X1

104746

3

116805

0

119097

27

121255

48

121708

11

ST299

1854

121912

1854

ST351

3

107321

3

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

QTY -041	QTY -043	PART NUMBER	DESCRIPTION
X		D4361-041	SKIDTUBE ASSY
	X	D4361-043	SKIDTUBE ASSY
1	1	D2600-1-160	EXTRUSION
1		D2654-5	WEB
	1	D2654-7	WEB
1	1	D2646	AFT CAP
1	1	D2647	CAP
23	26	D2649	CROSS BOLT SPACER
4	8	D2651-1	PLUG
4	8	D2651-3	O-RING
1	1	D2680-041	NUT PLATE
18	20	D3873-1	BUSHING
1		D4364-041	FWD WEARPLATE ASSY
1		D4364-043	AFT WEARPLATE ASSY
	1	D4366-041	FWD WEARPLATE ASSY
	1	D4366-043	AFT WEARPLATE ASSY
9	10	AN3-36A	BOLT
9	10	NAS1149C0332R	WASHER (OR AN960C10L)
9	10	MS21042-3	NUT
2	2	NAS1149D0332J	WASHER (OR AN960JD10L)
2	2	CCR264SS3-3	RIVET
2	2	CR3212-4-03	RIVET
2	2	MS27039-1-08	SCREW
1	1	MS27039-4-06	SCREW
1	1	NAS1149D0463J	WASHER (OR AN960JD416)

SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT

WITHOUT NOTICE
WORK ORDER

NO. 87034 MLJ

12/07/10

NOTES:

- 1) MATERIAL: N/A
- 2) FINISH: -CHEMICAL CONVERSION COAT PER DART QSI 005 4.1 PRIOR TO INSTALLING D2654-5/-7 WEB
-POWDER COAT WHITE (REF 4.3.5.1) PER DART QSI 005 4.3
-BLACK ANTI-SKID PAINT AS INDICATED TO 0.5 ABOVE LOCATION RIDGE PER DART QSI 005 4.4
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: NONE
- 7) WEIGHT: D4361-041 = 37.5 LBS
D4361-043 = 44.3 LBS
- 8) WELD PER DART QSI 004
- 9) DAMAGE TOLERANCE ON FWD BEND:
THERE SHOULD BE NO VISIBLE WRINKLES IN THE BEND FROM THE GROUND TO A HEIGHT OF 5 INCHES ABOVE THE GROUND. IT IS ACCEPTABLE TO POLISH OUT GOUGES UP TO 0.020 DEEP IN THE BENT PORTION OF THE TUBE.
A MAXIMUM REDUCTION IN DIAMETER OF 0.150" IS ACCEPTABLE IN THE BENT PORTION OF THE TUBE.
- 10) BOND WEB INTO OUTER TUBE WITH SIKAFLEX-241/-291 ADHESIVE PER DART QSI 015
- 11) INSERT D2651-1 PLUG C/W D2651-3 O-RING IN HOLES MARKED 'P' (BOTH SIDES OF TUBE)

RELEASED
2011-09-12

A	NEW ISSUE	SC	11.05.05
REV.	DESCRIPTION	BY	DATE
DESIGN	SC	DART AEROSPACE USA, INC	
DRAWN	SC	PORT HADLOCK, WA	
CHECKED	<i>[Signature]</i>	DRAWING NO.	REV. A
MFG. APPR.	<i>[Signature]</i>	D4361	SHEET 1 OF 4
APPROVED	<i>[Signature]</i>	TITLE	SCALE
DE APPR.	<i>[Signature]</i>	206L/407 SKIDTUBE ASSEMBLIES	NTS
DATE	11.05.05	COPYRIGHT © 2011 BY DART AEROSPACE USA, INC <small>THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.</small>	

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Elevation view of a bridge deck. The deck is 117.4 units wide. The top surface is 10.00 units high from the centerline. The bottom surface is 5.00 units high from the centerline. The deck is supported by a central pier and two side piers. The central pier has a width of 6.00 units. The side piers have a width of 2.40 units. The deck is composed of 23 PL PER SIDE. The central pier has 5 HOLES AT 7.725 PITCH. The side piers have 5 HOLES AT 7.725 PITCH. The deck is detailed with R30±1, D2654-5 WEB, and Ø0.625 THIS LOCATION ONLY BOTH SIDES. The deck is also detailed with 100.3 TO BEND TANGENT and 117.4.

DETAIL D A3-6

1.5

1.5

9.5

P

P

C

C

ANTI-SKID PAINT 2 PL

A7-4

1.5

DETAIL B C5-4

D4364-041 FWD WEARPLATE ASSY

AN3-36A BOLT D3873-1 BUSHING, 2X NAS1149C033ZR WASHER (OR AN960C10L) MS21042-3 NUT 9 PL

D4364-043 AFT WEARPLATE ASSY

D4361-041 ASSEMBLY/FINISHING DETAIL

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2011-09-12

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CHECKED	<i>SC</i>	DRAWING NO.	REV. 1
MFG. APPR.	<i>EE</i>	D4361	SHEET 2 OF 2
APPROVED	<i>40</i>	TITLE	SCALE
DE APPR.	<i>#</i>	206L/407 SKIDTUBE ASSEMBLIES	NT
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W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

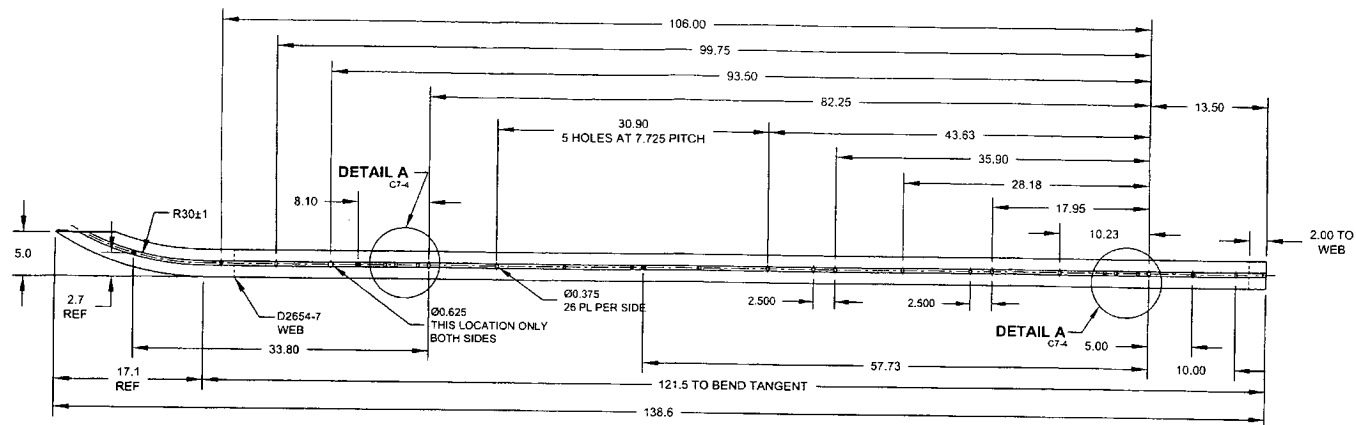
Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

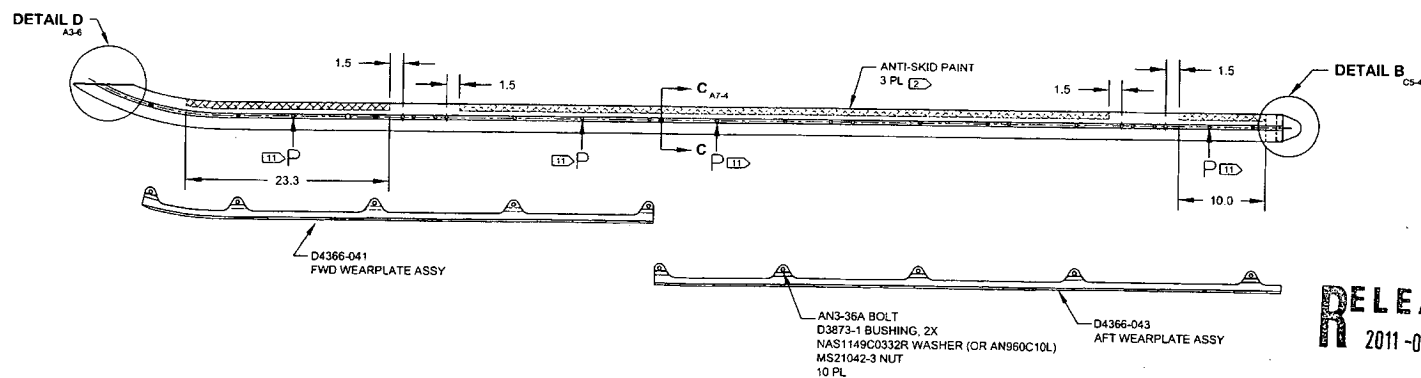
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DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

87034



D4361-043 BENDING/DRILL DETAIL



D4361-043 ASSEMBLY/FINISHING DETAIL

RELEASED
2011-09-12

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CHECKED	9	DRAWING NO.	REV. A
MFG. APPR.	8	D4361	SHEET 3 OF 4
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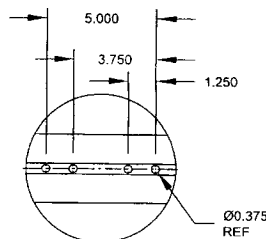
W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

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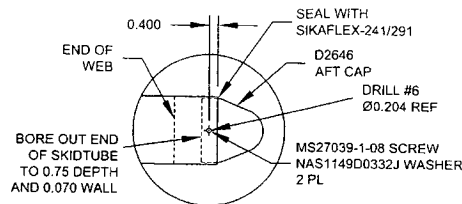
NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
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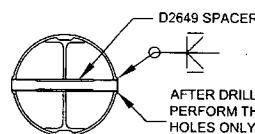
DETAIL A

C3-2
D7-2
C3-3
D6-3



DETAIL B

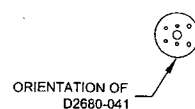
B2-2
B1-3



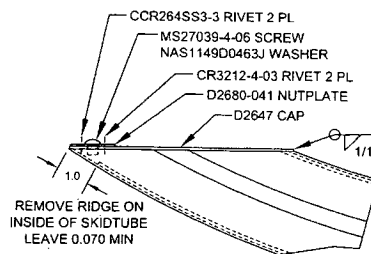
AFTER DRILLING AND BENDING ASSEMBLY
PERFORM THE FOLLOWING FOR Ø0.375
HOLES ONLY:
1. CHAMFER HOLE 0.030 X 45°
2. INSERT D2649 SPACER
3. WELD INTO PLACE AND GRIND FLUSH
4. CBORE TO Ø0.313 X 0.75 DP

SECTION C-C
FOR Ø0.375 HOLES
ONLY

B4-2
B5-3



ORIENTATION OF
D2680-041



DETAIL D

B7-2
B7-3

DETAIL D NOTES:

1. CUT TUBE LEVEL
2. REMOVE RIDGE ON FWD SIDE
3. LOCATE D2647 (TRIM AS NECESSARY)
4. WELD D2647 IN PLACE PER DART QSI 004
5. GRIND FLUSH
6. RIVET D2680-041 NUT PLATE IN PLACE

NOTE: MASK THREADS IN D2680-041 PRIOR TO FINISH

RELEASED
2011-09-12
JP

DESIGN	SC	DART AEROSPACE USA, INC PORT HADLOCK, WA	
DRAWN	SC		
CHECKED	JP	DRAWING NO.	REV. A
MFG. APPR.	JP	D4361	SHEET 4 OF 4
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NOTE: Date & initial all entries

NO. 297

AWS D17.1.2001
QUALIFICATION TEST RECORD

Name: Barclay Elliott
Job #: 80951
Part #: A206-642-151
Description: Skid tube
Welding Process: Tig[☒] Mig[]
Base material: Alum
Current: AC[☒] DC[]

TEST REQUIREMENTS AND RESULTS

Visual:	pass[<input checked="" type="checkbox"/>]	fail[]
Incomplete Penetration:	pass[<input checked="" type="checkbox"/>]	fail[]
Incomplete Fusion:	pass[<input checked="" type="checkbox"/>]	fail[]
Cracks:	pass[<input checked="" type="checkbox"/>]	fail[]
Overlap (cold lap)	pass[<input checked="" type="checkbox"/>]	fail[]
Undercut:	pass[<input checked="" type="checkbox"/>]	fail[]
Pin holes:	pass[<input checked="" type="checkbox"/>]	fail[]
Porosity (surface):	pass[<input checked="" type="checkbox"/>]	fail[]
Coloration:	pass[<input checked="" type="checkbox"/>]	fail[]
Burn through:	pass[<input checked="" type="checkbox"/>]	fail[]

Qualifier [Signature] Date of Test Coupon 12.06.13
Welder Barclay Elliott Date of Test Coupon 12.06.13

The above named individual is qualified in accordance with AWS D17.1.2001 to weld